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AMENDMENTS TO THE CLAIMS

Please replace all prior versions of the claims of invention with the following claims:

Claims 1. - 11. (canceled)

Claim 12. (amended) A method of operating a nuclear power plant through a fuel cycle of a core of a reactor of the plant, the method comprising:

determining a maximum power level for the reactor;

obtaining a NRC license to operate the reactor at the maximum power level;

operating the reactor at an initial power level less than the maximum power level during a first part of the fuel cycle; and

operating the reactor at an enhanced power level during a second part of the cycle, the enhanced power level being between the initial power level and the maximum power level;

the increase in power level from the initial level to the enhanced power level being based upon $F_Q$ and $F_{\Delta H}$ and based at least in part upon the progressive depletion of the core during the fuel cycle and upon environmental conditions.

Claim 13. (original) The method as set forth in Claim 12, wherein the step of operating the reactor at an enhanced power level during a second part of the cycle comprises operating the reactor at a substantially continuously variable enhanced power level.

Claim 14. (withdrawn) The method as set forth in Claim 13, wherein the step of operating the reactor at a substantially continuously variable enhanced power level comprises maintaining the highest enhanced power level possible at substantially each point in the fuel cycle.

Claim 15. (new) The method as set forth in Claim 12, wherein the step of operating the reactor at an enhanced power level during the second part of the cycle comprises operating the reactor at the licensed maximum power level.



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